



## Department of Energy

Washington, DC 20585

September 18, 2002

The Honorable John T. Conway  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, NW, Suite 700  
Washington, D.C. 20004-2901

Dear Chairman Conway:

This is in response to your July 30, 2002 letter, regarding seismic issues related to the construction of the High-Level Waste Facility of the Hanford Waste Treatment Plant (WTP). The Department of Energy (DOE) appreciates the expertise and support provided by the Defense Nuclear Facilities Safety Board.

Your concerns regarding the seismic margins of safety were promptly forwarded to the Office of River Protection (ORP) for their action. In response, the ORP has developed ORP/OSR 2002-22, *Office of River Protection Position Concerning Assumed Probability of Tectonic Activity and Adequacy of Ground Motion Attenuation Model Used in the Design of the Waste Treatment Plant* to address the two concerns that are the subject of this letter.

As discussed in ORP/OSR 2002-22, which is enclosed, the WTP design uses the Hanford Site seismic design criteria developed in the 1996 *Geomatrix* study. This study was extensively reviewed at that time, before its acceptance for the Hanford Site. Since then, it has been reexamined on several occasions, as described in ORP/OSR 2002-22. It continues to provide the Department's best estimate of the probability of tectonic activity at the WTP site and the best estimate of the spectral amplification. In June 2002, in response to the Board's questions related to the seismic design basis for the Hanford Site, ORP and the DOE reexamined these and other conclusions of the *Geomatrix* study. Based on additional analyses performed by Bechtel National, Inc. and review of this work by independent DOE consultants and staff (Attachment 3 of ORP/OSR 2002-22), the Department has concluded that:

The probability of tectonic activity previously assumed in *Geomatrix* (Table 1 of ORP/OSR 2002-22) remains appropriate for use by the ORP for the WTP, when used as input to the probabilistic seismic hazard analysis (as further explained in Section 4.1 of ORP/OSR 2002-22).

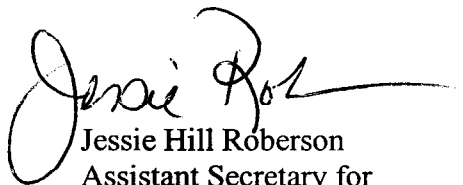


The design ground response spectra and ground motion attenuation model using California soil attenuation models developed in *Geomatrix* for the Hanford site is appropriate for application to the WTP (as further explained in Section 4.2 of ORP/OSR 2002-22).

The Department agrees that the potential risks assumed by employing an aggressive design and construction schedule for the WTP requires that DOE maintains active awareness and engagement in the progress, identification and resolution of design issues. The Department is committed to ensuring that adequate safety margins are not compromised during the design and construction phases of the project.

If you have any further questions, please contact me at (202) 586-7709 or Mr. Roy J. Schepens, Manager, Office of River Protection, at (509) 376-6677.

Sincerely,

A handwritten signature in black ink, appearing to read "Jessie Hill Roberson", with a long horizontal flourish extending to the right.

Jessie Hill Roberson  
Assistant Secretary for  
Environmental Management

Enclosure

cc: M. Whitaker, S-3.1